

### TECHNICAL DATASHEET

#### CNC-Turning-Milling-Center

Manufacturer	<b>DMG Gildemeister</b>
Type	<b>GMX500 linear</b>
Control	<b>Siemens Sinumerik 840D</b>
built	<b>2003</b>



CNC turning- and milling center with main and counter spindle for efficient 4-axis complete machining of chuck, bar or shaft parts

#### Working range

Swing diameter	610 mm	
Turning diameter normal	390 (610) mm	
Spindle distance	2.250 mm	
Axial travel (X1) / Longitudinal travel (Z1)	605 / 1.870 mm	Turn-drill-mill unit
Y-axis	210 mm	Turn-drill-mill unit
B-axis	240 °	Turn-drill-mill unit
Axial travel (X2) / Longitudinal travel (Z2)	267 / 1.840 mm	Tool turret
Longitudinal travel (Z3)	1.840 mm	Counter spindle

#### Main spindle

CNC-Turning-Milling Center,

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Chuck diameter	250-315-400	mm	
Bar diameter max.	82	mm	
Spindle head	Ø 220H5	mm	Flat flange
Spindle bore	Ø 118	mm	
Clamping tube inner diameter	82	mm	
Diameter in front bearing	180	mm	

### Counter spindle

Chuck diameter	250-315-400	mm	
Bar diameter max.	92	mm	
Spindle head	Ø 220H5	mm	Flat flange
Spindle bore	Ø 118	mm	
Clamping tube inner diameter	104	mm	
Diameter in front bearing	180	mm	

### Main spindle drives left and right

Drive power	45 / 74	kW	100 / 40% ED
Speed range	20 – 3.200	1/min	
Buckling speed	650	1/min	
Torque	650 / 1.080	Nm	100 / 40% ED
C-axis speed	3.200	1/min	
Torque C-axis	660	Nm	
Partial accuracy C-axis	0,025	°	
Design	Integrated spindlemotor		

### Slide for Turn-Drill-Mill-Unit

Rapid traverse X1 / Y1 / Z1	46 / 24 / 70	m/min
Feed force X1 / Y1 / Z1	11 / 16 / 8,1	kN
Measuring system resolution X1 / Y1 / Z1	0,001	mm
Ball screw X1, d x h	Ø40 x 15	mm
Ball screw Y, d x h	Ø40 x 10	mm

### Slide for Tool turret

Rapid traverse X2 / Z2	24 / 60	m/min
Feed force X2 / Z2	7,5 / 11	kN
Measuring system resolution X2 / Z2	0,001	mm
Ball screw X2, d x h	Ø32 x 15	mm
Ball screw Z2, d x h	Ø50 x 25	mm

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### Slide counter spindle

Rapid traverse Z3	60	m/min	
Feed force Z3	12	kN	
Measuring system resolution Z3	0,001	mm	
Ball screw Z3, d x h	Ø50 x 25	mm	

### Working spindle

Tool holder	HSK-A63		
Spindle speed max.	12.000	1/min	
Max. drive power	10 / 15	kW	100 / 40% ED
Torque max.	37 / 130	Nm	100 / 40% ED
Indexing device B-axis	1	°	
Holding torque locked	500	Nm	

### Tool turret

Tool holder DIN69880	40	mm	
Number of stations	12		
of which driven	12		
Tool spindle speed	4.000	1/min	
Drive power max.	10	kW	100% ED
Torque max.	33	Nm	100% ED

### Coolant supply

Tank capacity	1.000	l	
Belt filter system	Ja		
Number of coolant circuits	3		
Pump pressures 1 / 2 / 3	80 / 22 / 8	bar	
Flow rates 1 / 2 / 3	16 / 30 / 60	l/min	
Coolant temperature control	Ja		
Cooling capacity	4,0	kW	
Refrigerant	R407c		

### Tool magazine

Number of tool positions	80		
Max. Tool size Ø x L	Ø80 x 350	mm	Secondary seats full
Max. Tool size Ø x L	Ø130 x 250	mm	Secondary seats empty
Tool holder	HSK-A63		
Separate terminal at the back of the machine for tool input			

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### Connection data

Connected load	130	kVA
Operating voltage	400	V
frequency	50	Hz
Fuse protection	200	A

### Dimensions

Length approx.	8.600	mm
Width approx.	4.200	mm
Height approx.	3.200	mm
Machine weight ca.	22.000	kg

### Equipment and Accessories

- CNC turning and milling center, designed for the complete machining of complex chuck and shaft parts up to 610 mm orbital diameter
- Z1-axis drive via linear motor
- Main and counter spindle with integrated ISM102 motor spindle
- Drives in digital servo technology from SIEMENS
- Siemens Sinumerik 840D control system
- Main spindle as integrated motor spindle with C-axis function
- Counter spindle as integrated motor spindle with C-axis function
- Turning, drilling and milling unit with Y-axis and integrated B-axis
- Kessler HSK-A63 tool spindle up to 12,000 rpm, 15 kW and 130 Nm
- Sauter tool turret at the bottom on second Z-slide with 12 positions
- Second control panel at the rear for data input for tool management
- Pick-up magazine for 3 long tools with standard tool interface, arranged above the main spindle
- Tool magazine 80-fold, two chains with 40 tools each
- Coolant unit consisting of:  
Coolant tank approx. 1,000 l, feed pump 8 bar/60l/min, medium pressure 22 bar/30l/min, high pressure 80 bar/16l/min, belt filter system, cooling unit  
Lifting tank with feed pump on the chip conveyor
- 1 chip conveyor lengthwise and crosswise, coolant capacity in chip conveyor approx. 450 l
- Complete housing with automatic doors
- 1 pc. Three-jaw power chuck, FORKARDT 3 FNC/315-82-Z11-F250 mounted on main spindle
- 1 pc. Three-jaw power chuck, FORKARDT 3 FNC/400-92-Z11-F315 mounted on counter spindle
- Oil mist extraction
- Machine prepared for bar feed supply